

REMARKS/ARGUMENTS

Applicant responds herein to the Office Action dated September 30, 2004.

Claim 1 is stand rejected under 35 U.S.C. §102(b) as being anticipated by Rose, et. al. (5,967,156). Further, claims 1 and 5 stand rejected under 35 U.S.C. §102(b) as being anticipated by Japanese patent publication no. 11-233481. Claim 2 is rejected under 35 U.S.C. §103(a) as being obvious over Rose, et. al. Lastly, claims 2 and 6-8 are rejected under 35 U.S.C. §103(a) as being obvious over Japanese patent publication no. 11-233481. Reconsideration is requested in view of the amendments to the claims herein and the following remarks.

The invention of independent claim 1 is directed to an apparatus which is defined in the preamble as being “for spraying gas onto a substrate completely cleaned with ionized water for drying said substrate”. Patent jurisprudence (that is, prior court decisions) indicate that the preamble has to be given patentable weight when it breathes life and meaning into the structural components being claimed. Here, the preamble must be deemed to carry patentable weight, because it defines that the substrate has been completely cleaned with deionized water and that the purpose of the apparatus is to spray gas “for drying said substrate”, i.e., to remove the water off the substrate.

According to claim 5, a first gas discharge element is coupled to a source of the gas to spray the gas onto the surface of the substrate which is wet with the deionized water used for cleaning. Thereafter, a second gas discharge element, also coupled to the source of gas, is regulated by the claimed “control” to cause further spraying of the gas onto the same region as the region previously sprayed with the gas by the first gas discharge element.

Independent claim 5, as amended, now recites “the first and second nozzles are fixed to one nozzle arm, and the second nozzle further sprays gas to the same region as the region having been sprayed with gas by the first nozzle.”

Thus, in accordance with both independent claims 1 and 5, a substrate surface wet with deionized water is sprayed with gas from a first gas discharge element to roughly eliminate moisture by an amount which is visually recognizable. Thereafter, the second gas element further sprays gas to the same region as the first region to further remove the moisture. In

accordance with the inventions recited in claim 1, an effect is obtained that even ultramicroscopic amounts of moisture remaining on the surface of the substrate can be eliminated to completely dry the substrate surface. The Rose, et. al. document (which anchors the rejection of claim 1 on grounds of anticipation) discloses two aerosol generating nozzles 80, 82 that are used to spray aerosols 86, 88 onto the surface of a substrate 52 (see Figure 4A). The device of Rose, et. al. does not spray a gas, but aerosols. Rose, et. al. defines in column 2, lines 8-12, that an “aerosol” is a gaseous suspension of microscopic particles of a liquid, or a mixture of a solid and a liquid. An aerosol substantially differs from gas. An “aerosol” of the type described in Rose, et. al. would not (or at least should not) be utilized for the drying of a wet substrate to solve the problem addressed by the present inventors.

Indeed, Rose, et. al. describes an invention which is directed to a cleaning apparatus for cleaning the substrate 52 by removing foreign material 10 attached to the substrate 52 through the spraying of aerosols. This might be utilized prior to any “drying” operation. As such, the Rose, et. al. disclosure is directed to a completely different invention and one of ordinary skill in the art would not turn to it for guidance for the solution provided by the instant inventors.

Furthermore, Rose, et. al. does not describe or specify that their two aerosol generating nozzles spray the aerosol content in a sequence, i.e., one after another. If at all, it appears that the two nozzles in Rose, et. al. are operated simultaneously to spray aerosols. The various figures of this reference, including Figure 4A, suggest simultaneous spraying. Therefore, Rose, et. al. does not teach any “control” that sequences the spraying and directs the second drying spray to cover the same region as a previous drying spray nozzle. Based on the foregoing, not only is Rose, et. al. directed to a different aspect of substrate fabrication, but, moreover, it lacks various structural features recited in claim 1.

The Japanese patent application number 11-233481 describes an element (4) that supplies gas to reduce surface tension and another element (5) that provides a liquid. Both elements are provided via one movable arm (3). Therefore, this reference describes the discharging of liquid, not a gas, at a substrate. Therefore, the Japanese document similarly completely fails to show the feature of the present invention, in which the second gas discharge

element further sprays gas to the same region as the region that previously received a spray of gas for the purposes of drying the same.

Indeed, even a combination of the teachings of the two cited references or the incorporation of the teachings from one reference into the other, leaves the combined and/or modified teachings well short of the specific recitations of elements and features of the independent claims of the present application. These remarks apply to the dependent claims as well. As such, it is respectfully urged that all of the claims in the application clearly define over the prior art of record.

Accordingly, the Examiner is respectfully requested to reconsider the application, allow the claims as amended and pass this case to issue.

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents P.O. Box 1450, Alexandria, VA 22313-1450, on December 29, 2004

MAX MOSKOWITZ

Name of applicant, assignee or
Registered Representative

Signature

December 29, 2004

Date of Signature

Respectfully submitted,

Max Moskowitz

Registration No.: 30,576

OSTROLENK, FABER, GERB & SOFFEN, LLP

1180 Avenue of the Americas

New York, New York 10036-8403

Telephone: (212) 382-0700